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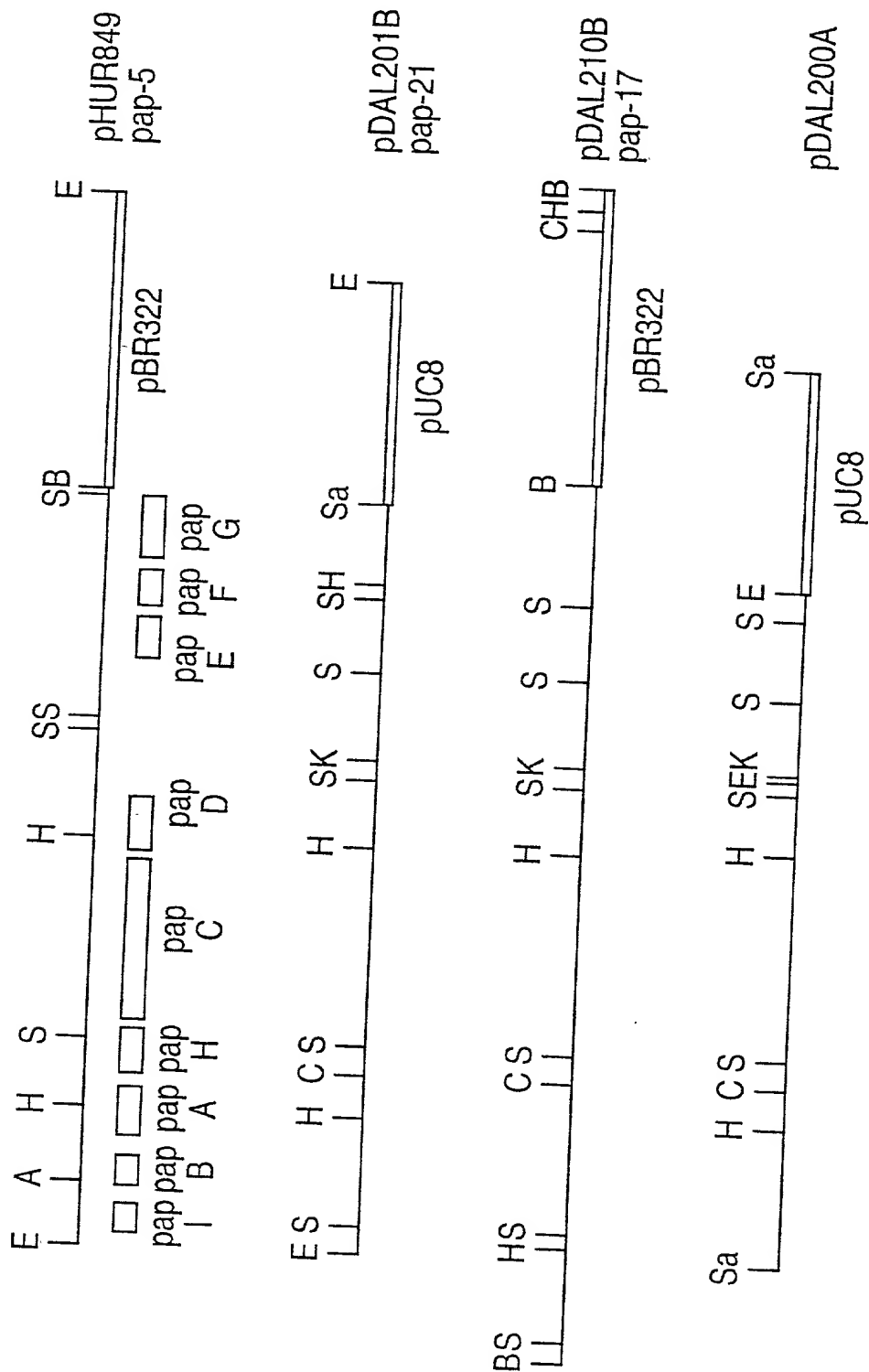


FIG. 2A

1 ATGAGACTGCGATTCTCTGTTCCACTTTTCTTTTTGGCTGTGTGTTTGTTCATGGTGTT 60
M R L R F S V P L F F F G C V F V H G V
-22
61 TTTGCCGGTCCGTTTCTCCGCCCGGCATGTCCCTTCTGAATACTGGGGAGAAGAGCAC 120
F A G P F P P P G M S L P E Y W G E E H
-1 +1
121 GTATGGTGGGACGGCAGGGCTGCTTTTCATGGTGAGGTTGTCAGACCTGCCTGTACTCTG 180
V W W D G R A A F H G E V V R P A C T L
181 GCGATGGAAGACGCTGGCAGATTATTGATATGGGGGAAACCCGGTACGGGATTACAG 240
A M E D A W Q I I D M G E T P V R D L Q
241 ATTGGTTTCTCCGGACCTGAAAGAAAATTCAGCCTCCGGCTCAGGAATTGTGAATTTAAC 300
N G F S G P E R K F S L R L R N C E F N
301 AGTCAGGGTGGGAACCTTTTCTCTGATTCCCGGATAAGGGTGACTTTTCGATGGCGTCCGG 360
S Q G G N L F S D S R I R V T F D G V R
361 GGTGAAACGCCGATAAGTTTAATTTATCCGGTCAGGCAAAGGCATTAATCTGCAGATA 420
G E T P D K F N L S G Q A K G I N L Q I
421 GCTGATGTCAGGGGAAATATTGCCCGGGCAGGAAAAGTAATGCCTGCAATACCATTGACG 480
A D V R G N I A R A G K V M P A I P L T
481 GGTAAATGAAGAAGCGCTGGATTACCCCTCAGAATTGTGAGAAACGGAAAAAACTTGAA 540
G N E E A L D Y T L R I V R N G K K L E
541 GCCGGAATTATTTTGTGTGCTGGGATTCCGGGTCGATTATGAGTGA 588
A G N Y F A V L G F R V D Y E *

09833079-091801

Title. IMMUNOGENIC PILI
PRESENTING FOREIGN PEPTIDES,
THEIR PRODUCTION AND USE

Inventor(s): Peter O'Hanley et al.

Appl. No.: 09/833,079

3/8

FIG. 2B

1 ATGAGACTGCGATTCTCTGTTCCACTTTTCTTTTTTGGCTGTGTGTTTGTTTCATTGTGT 60
M R L R F S V P L F F F C C V F V H C V
-22
61 TTTGCCGGTCCGTTTCTCCGCCCGGCATGTCCTTCTGAATACTGGGGAGAAGAACAC 120
F A G P F P P P G M S L P E Y W G E E H
-1 +1
121 GTATGGTGGGACGGCAGGGCTGCTTTTCATGGTGAGGTGTGACACCTGCCTGTACTCTG 180
V W W D G R A A F H G E V V R P A C T L
181 GCGATGGAAGACGCCTGGCAGATTATCGATATGGGGGAAACCCGGTTCGGGATTACAG 240
A M E D A W Q I I D M G E T P V R D L Q
241 ATTGGTTTCTCCGGACCTGAAAGAAAATTCAGCCTCCGGCTCAGGAACGTGAATTTAAC 300
N G F S G P E R K F S L R L R N C E F N
301 AGTCAGGGTGGGAACCTTTTCTCTGATTCCCGGATAAGGGTGACTTTTCGATGGCGTCCGG 360
S Q G G N L F S D S R I R V T F D G V R
361 GGTGAAACGCCGGATAAGTTTAATTTATCCGGTCAGGCAAAAGGAATTAATCTGCAGATA 420
G E T P D K F N L S G Q A K G I N L Q I
421 GCTGATGCCAGGGGAAATATTGCCCGGCAGGGAAGTAATGCCTGCAATACCATTGACG 480
A D A R G N I A R A G K V M P A I P L T
481 GGTAAATGAAGAAGCGCTGGATTACCCCTCAGAATTGTGCGAAACGGAAAAAACTTGAA 540
G N E E A L D Y T L R I V R N G K K L E
541 GCCCGAAATTATTTTGGCGTGCTGGGATTCCGGGTCGATTATGAGTGA 588
A G N Y F A V L G F R V D Y E *

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4/8

FIG. 2C

1 ATGAGACTGCGATTCTCTGTTCCACTTTTCTTTTTTCTGTGTGTTTGTTCATGGTGT 60
M R L R F S V P L F F F C C V F V H G V
-22
61 TTTGCCGGTCCGTTTCTCTCCCGGCATGTCCCTTCTGAATACTGGGAGAAGAGCAC 120
F A G P F P P P G M S L P E Y W G E E H
-1 +1
121 GTATGGTGGGACGGCAGGGCTGCTTTTCATGGTGAGGTTGTCAGACCTGCCTGTACTCTG 180
V W W D G R A A F H G E V V R P A C T L
181 GCGATGGAAGACGCTGGCAGATTATCGATATGGGGGAAACCCGGTTCGGGATTTACAG 240
A M E D A W Q I I D M G E T P V R D L Q
241 ATTGGTTTTTCCGGACCTGAAAGAAAATTCAGCCTCCGGCTCAGGAAGTGAATTTAAC 300
N G F S G P E R K F S L R L R N C E F N
301 AGTCAGGGTGGGAACCTTTTCTCTGATTCCCGGATAAGGGTGACTTTCGATGGCGTCCGG 360
S Q G G N L F S D S R I R V T F D G V R
361 GGTGAAACGCCGGATAAGTTTAATTTATCCGGTCAGGCAAAGGCATTAATCTGCAGATA 420
G E T P D K F N L S G Q A K G I N L Q I
421 GCTGATGCCAGGGGAAATATTGCCCGGGCAGGAAAGTAATGCCTGCAATACCATTGACG 480
A D A R G N I A R A G K V M P A I P L T
481 GGTAATGAAGAAGCGCTGGATTACCCCTCAGAATTGTGAGAAACGGAAAAAACTTGAA 540
G N E E A L D Y T L R I V R N G K K L E
541 GCCGGAAATTATTTTCCCGTGCTGGGATTCCGGGTCGATTATGAGTGA 588
A G N Y F A V L G F R V D Y E *

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5/8

FIG. 2D

1 ATGAGACTGCGATTCTCTGTTCCACTTTTCTTTTTTGTCTGTGTTTGTTCATGGTGTT 60
M R L R F S V P L F F F C C V F V H G V
-22
61 TTTGCCGGTCCGTTTCTCCGCCCGGCATGTCCCTTCTGAATACTGGGAGAAGAACAC 120
F A G P F P P P G M S L P E Y W G E E H
-1 +1
121 GTATGGTGGGACGGCAGGGCTGCTTTTCATGGTGAGTTGTGAGACCTGCCTGTACTCTG 180
V W W D G R A A F H G E V V R P A C T L
181 GCGATGGAAGACGCCTGGCAGATTATCGATATGGGGGAAACCCGGTTCGGGATTTACAG 240
A M E D A W Q I I D M G E T P V R D L Q
241 ATTGGTTTTTCCGGACCTGAAAGAAAATTCAGCCTCCGGCTCAGGAAGTGAATTTAAC 300
N G F S G P E R K F S L R L R N C E F N
301 AGTCAGGGTGGGAACCTTTTCTCTGATTCCTCCGGATAAGGGTGACTTTCGATGGTGTCGG 360
S Q G G N L F S D S R I R V T F D G V R
361 GGTGAAACGCCGGATAAGTTTAATTTATCCGGTCAGGCAAAAGGCATTAATCTGCAGATA 420
G E T P D K F N L S G Q A K G I N L Q I
421 GCTGATGCCAGGGGAAATATTGCCGGGCAGGGAAAGTAATGCCTGCAATACCATTGACG 480
A D A R G N I A R A G K V M P A I P L T
481 GGTAATGAAGAAGCGCTGGATTACCCCTCAGAATTGTGCGAAACGGAAAAAACTTGAA 540
G N E E A L D Y T L R I V R N G K K L E
541 GCCGGAAATTATTTTGGCGTGCTGGGATTCCGGTCGATTATGAGTGA 588
A G N Y F A V L G F R V D Y E *

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FIG. 3

6/8

1 60
pHUR849 ATGAGACTGCGATTCTCTGTTCCACTTTTCTTTTTGGCTGTGTGTTGTTTCATGGTGT
pDAL200A t
pDAL201B t
pDAL210B t
61 67 120
pHUR849 TTTGCCGGTCCGTTTCTCCGCCCGGCATGTCCCTTCTGAATACTGGGGAGAAGAGCAC
pDAL200A t a
pDAL201B t a
pDAL210B a
121 180
pHUR849 GTATGGTGGGACGGCAGGGCTGCTTTTCATGGTGAGGTTGTCAGACCTGCCTGTACTCTG
pDAL200A
pDAL201B
pDAL210B
181 240
pHUR849 GCGATGGAAGACGCCTGGCAGATTATTGATATGGGGAAACCCCGGTACGGGATTTACAG
pDAL200A c t
pDAL201B c t
pDAL210B c t
241 300
pHUR849 ATTGTTTCTCCGGACCTGAAAGAAAATTCAGCCTCCGGCTCAGGAATTGTGAATTTAAC
pDAL200A c
pDAL201B t c
pDAL210B t c
301 360
pHUR849 AGTCAGGGTGGGAACCTTTTCTCTGATTCCCGGATAAGGGTGACTTTCGATGGCGTCCGG
pDAL200A
pDAL201B
pDAL210B
361 420
pHUR849 GGTGAAACGCCGATAAGTTTAATTTATCCGGTCAGGCAAAAGGCATTAATCTGCAGATA
pDAL200A a
pDAL201B
pDAL210B
421 480
pHUR849 GCTGATGTCAGGGGAAATATTGCCCGGGCAGGAAAAGTAATGCCTGCAATACCATTGACG
pDAL200A c g
pDAL201B c g
pDAL210B c g
481 540
pHUR849 GGTAATGAAGAAGCGCTGGATTACACCCTCAGAATTGTGAGAAACGGAAAAAACTTGAA
pDAL200A c
pDAL201B c
pDAL210B c
541 588
pHUR849 GCCGGAAATTATTTTGCTGTGCTGGGATTCCGGTCGATTATGAGTGA
pDAL200A c
pDAL201B c
pDAL210B c

09833079-091801

FIG. 4

-22 -1+1
MRLRFSPVPLFFFGCVFVHGVFAAGPPPGMSLPEYWGEEH 18
19 C
VWWDGRAAFHGEEVVRPACTLAMEDAWQIIDMGETPVRDLQ 58
59
NGFSGPERKFSRLRNCFFNSQGGNLFSDSRI RVTFDGVR 98
99
GETPDKFNL SGQA KGINLQIADVRGN IARAGKVMPA IPLT 138
139 a
GNEEALDYTLRI VRNGKKLEAGNYFAVLGF RV DYE 173

FIG. 5A

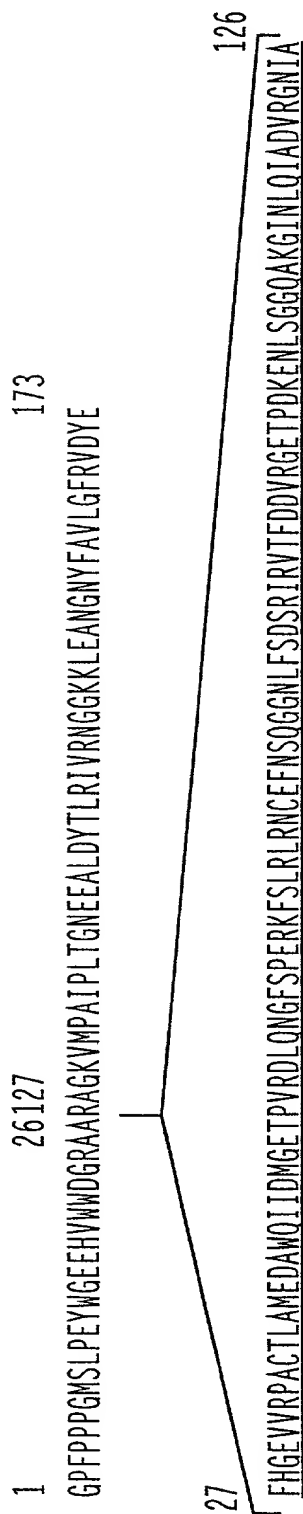


FIG. 5B

